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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,401	09/17/2001	Anne Coenraad Hulst	294-101PCT/U	9260

7590

03/11/2003

Ronald J Baron  
Hoffmann & Baron  
6900 Jericho Turnpike  
Syosset, NY 11791

EXAMINER

TATE, CHRISTOPHER ROBIN

ART UNIT

PAPER NUMBER

1654

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
**09/868,401**

Applicant(s)  
**Hulst et al.**

Examiner  
**Christopher Tate**

Art Unit  
**1654**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jan 28, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12, 13, 16-18, and 22-39 is/are pending in the application.
- 4a) Of the above, claim(s) 9, 12, 13, and 22-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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### **DETAILED ACTION**

The amendment filed January 28, 2003 is acknowledged and has been entered. Claims 1-8 and 16-18 have been examined on the merits. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 U.S.C. § 102***

Claims 1-5, 8, and 16 stand rejected under 35 U.S.C. 102(b) as being anticipated by Holdren (US 4,332,125) for the reasons set forth in the previous Office action which are restated below.

Holdren teaches a method of preparing and separating components from vegetable plant material such as cultivated forage crops - e.g., alfalfa and/or various grasses - comprising fiberizing the vegetable material (which, based upon the express teachings of Holdren, would inherently open substantially all cell walls), then separating the fiberized material into a fiber fraction (which would inherently contain substantially all naturally occurring fibrous material and cell walls therein) and a juice fraction which includes the step of centrifugation, whereby the juice fraction containing all the natural juice from all of the ruptured plant cells therein (which would inherently contain substantially all the naturally occurring cytosolic material, parenchma, and chloroplasts therein since these cell constituents are inherently present within such ruptured plant cells) is collected in a reservoir. Holdren further discloses that the recovered natural juice fraction contains important nutritional constituents such as protein and sugars (see entire

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document including abstract; col 1, lines 6-29; col 3, line 5 - col 6, line 17; col 7, line 13 - col 8, line 32; col 9, lines 43-46; and claims).

Therefore, the reference is deemed to anticipate the instant claims above.

Claims 1-5, 7, 8, 16, and 17 stand rejected under 35 U.S.C. 102(b) as being anticipated by Huster et al. (US 3,948,677) or Woodward (GB 2,103,635) for the reasons set forth in the previous Office action which are restated below.

Huster et al. teach a method of separating components from starch-bearing root crops such as potatoes comprising grinding/macerating the roots (which reads on fiberizing and/or partially fiberizing), then separating therefrom via centrifugation a juice fraction containing starch (a carbohydrate) therein (the natural juice fraction would inherently contain substantially all the naturally occurring cytosolic material, parenchyma, and chloroplasts therein since these cell constituents are inherently present within such root crop cells) and a fiber fraction (which would inherently contain substantially all naturally occurring fibrous material and cell walls therein). Huster et al. also disclose further refining/purification of the starch from the starch-containing juice fraction (see, e.g., abstract; col 1, lines 6-16; col 3, lines 1-68; claims).

Woodward teaches a method of separating components from starch-bearing root plants such as potatoes, cassava, yams, taro, etc. via pulverizing/disintegrating the roots (which reads on fiberizing and/or partially fiberizing), then separation therefrom via filtering/screening a juice fraction containing starch (a carbohydrate) therein the natural juice fraction would inherently

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contain substantially all the naturally occurring cytosolic material, parenchyma, and chloroplasts therein since these cell constituents are inherently present within such root crop cells) and a fiber fraction (which would inherently contain substantially all naturally occurring fibrous material and cell walls therein). Woodward also discloses further refining/purification of the starch/starch milk from the starch-containing juice fraction (see, e.g., abstract; figures; page 1, lines 5-13; page 2, lines 21-126; claims).

Therefore, each of the cited references is deemed to anticipate the instant claims above.

Claims 1-5, 7, 8, and 16 stand rejected under 35 U.S.C. 102(b) as being anticipated by Hultsch (US 4,536,288), Brouwer (US 4,203,845), or Sugar Ind. Res. Inst. (SU 424881 - DWPI Abstract), for the reasons set forth in the previous Office action which are restated below.

Each of the cited references teach separating a juice fraction (the natural juice fraction would inherently contain substantially all the naturally occurring cytosolic material, parenchyma, and chloroplasts therein since these cell constituents are inherently present within such root crop cells) and a fiber fraction (which would inherently contain substantially all naturally occurring fibrous material and cell walls therein) from crushed/squeezed beets (reads on fiberized and/or partially fiberized) via centrifugation (US '288, SU '881), and/or filter screening (US '845, SU '881) - see, e.g., US '288: col 1, line 9- col 3, line 68, claims; US '845: col 1, lines 4-52; SU '881: abstract.

Therefore, each of the cited references is deemed to anticipate the instant claims above.

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***Claim Rejections - 35 U.S.C. § 103***

Claims 1-6, 8, and 16-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Holdren (US 4,332,125) in view of Folkerts et al. (WO 9,713,402 - DWPI Abstract) for the reasons set forth in the previous Office action which are restated below.

The Holdren et al. reference is relied upon for the reasons discussed *supra*. Holdren et al. do not expressly teach using genetically modified grasses such as genetically modified alfalfa.

It is notoriously well known in the crop art to genetically modify (i.e., prepare transgenic) plants including grasses such as alfalfa, or root crops such as potatoes or sugar beets, so as to confer thereto one or more beneficial attributes including enhanced pest-resistance (such as beneficially disclosed by Folkerts et al.), enhanced disease-resistance, and/or enhanced yield of desired edible product.

It would have clearly been obvious to one of ordinary skill in the art at the time the claimed invention was made to employ genetically modified grasses such as alfalfa in the method of Holdren since these types of transgenic plants are notoriously well known in the crop art to display one or more beneficial attributes, including displaying enhanced resistance to pests such as disclosed by Folkerts et al., making them less susceptible to destruction and, thus, allowing higher end-product yield. Accordingly, the use of such beneficial transgenic plants would clearly have been obvious and advantageous to the skilled artisan in practicing the invention disclosed by Holdren. The adjustment of particular conventional working conditions - e.g., further recovering and/or purifying the valuable nutritional components such as sugar and/or protein

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disclosed by Holdren from such plant grass material - is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

Thus, the invention as a whole is *prima facie* obvious, especially in the absence of evidence to the contrary.

Claims 1-8 and 16-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Huster et al. (US 3,948,677), Woodward (GB 2,103,635), Hultsch (US 4,536,288), Brouwer (US 4,203,845), and Sugar Ind. Res. Inst. (SU 424881 - DWPI Abstract), in view of Folkerts et al. (WO 9,713,402 - DWPI Abstract) for the reasons set forth in the previous Office action which are restated below.

The primary references are relied upon for the reasons discussed *supra*.

It is notoriously well known in the crop art to genetically modify (i.e., prepare transgenic) plants, including root crops such as potatoes or sugar beets, so as to confer thereto one or more beneficial attributes including enhanced pest-resistance (such as beneficially disclosed by Folkerts et al.), enhanced disease-resistance, and/or enhanced yield of desired edible product.

It would have clearly been obvious to one of ordinary skill in the art at the time the claimed invention was made to employ genetically modified root crops such as potatoes and/or sugar beets in the methods disclosed by one or more of the primary references since these types of transgenic root plants are notoriously well known in the crop art to display one or more beneficial attributes, including displaying enhanced resistance to pests such as disclosed by

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Folkerts et al., making them less susceptible to destruction and, thus, allowing higher end-product yield. Accordingly, the use of such beneficial transgenic plants would clearly have been obvious and advantageous to the skilled artisan in practicing the invention disclosed by one or more of the primary references above. If not expressly taught, the adjustment of particular conventional working conditions - e.g., further recovering/purifying the valuable nutritional components such as sugar and/or protein therefrom - is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

Thus, the invention as a whole is *prima facie* obvious, especially in the absence of evidence to the contrary.

Applicants' arguments with respect to the art rejections above have been carefully considered but are not deemed to be persuasive of error in the rejections. In many instances, Applicants argue that the primary references do not teach fiberization so as to "substantially" open all cell calls to produce a fiber fraction containing "substantially" all fibrous material and a juice fraction which contains "substantially" all cytosolic material. However, the reference methods meet the claim limitations with respect to providing a fiber and juice fraction with the recited claim limitations, especially since the term "substantially" is relative with respect to the degree of fiberization as well as to the amount of the recited natural cell components within each of the fibrous and juice fractions. Further, Holdren (in particular) expressly teaches that the fiberization method disclosed therein results in the rupturing of substantially all cells (see, e.g.,



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col 4, lines 7-11 and 46-50). Applicant also argues that Holdren teaches spraying the juice fraction back onto the fibrous fraction. However, it is irrelevant as to what Holdren discloses is done to the juice and fibrous fractions following such fractionation - i.e., Holdren is deemed to teach or reasonably suggest the claimed method of separating a fiber fraction and a juice fraction from a vegetable material for the reasons set forth above. Other arguments concerning the Holdren reference, as well as arguments alleging that other primary references teach away from the claimed invention, are not deemed persuasive because they are not commiserate with the scope of the instantly recited claim language. Accordingly, these arguments are moot with respect to the actual limitations of the instantly claimed invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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### **Conclusion**

No claim is allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Tate whose telephone number is (703) 305-7114. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback, can be reached at (703) 306-3220. The Group receptionist may be reached at (703) 308-0196. The fax number for art unit 1654 is (703) 872-9306.

A handwritten signature in black ink, appearing to be 'Christopher R. Tate', with a stylized, circular flourish above the name.

Christopher R. Tate  
Primary Examiner, Group 1654